



Performance Metrics for Perception in Intelligent Manufacturing

Organizers: Tsai Hong and Roger Eastman

A Special Session at the Performance Metrics for Intelligent Systems Workshop

August 19—21, 2008

http://www.isd.mel.nist.gov/PerMIS_2008/

NIST
National Institute of Standards and Technology



Call for Papers

PerMIS'08 will be the eighth in the series that started in 2000, targeted at defining measures and methodologies of evaluating performance of intelligent systems. The workshop has proved to be an excellent forum for discussions and partnerships, dissemination of ideas, and future collaborations in an informal setting. Attendees usually include researchers, graduate students, practitioners from industry, academia, and government agencies.

We invite contributions for the PerMIS'08 Special Session on "Performance Metrics for Perception in Intelligent Manufacturing." Recent advances in 2D and 3D perception has the promise to enable new levels of autonomy and interactivity in factory automation, but innovative research and development results must be fully tested and validated before transfer to the factory floor. We are interested both in performance metrics for existing sensors and algorithms, as well as analysis and understanding of sensor requirements for manufacturing applications.

Areas for papers include, but are not limited to, the following areas:

- Sensor and robot calibration
 - Calibration of vision, lidar, and other sensing modalities
 - Characterization and evaluation of calibration methods
 - Fully automated calibration approaches
 - Calibration of multi-sensor, heterogeneous systems
 - Self-calibration methods
 - Integration of precision coordinate metrology and calibration
- Benchmarking of sensors and algorithms
 - Performance characterization of active and passive 3D sensors
 - Performance of pose, orientation and motion estimation algorithms
 - Testbeds and datasets for sensor evaluation
- Perception-enabled manufacturing applications such as
 - Visual servoing algorithms and implementations
 - Robot safety and human-machine interaction
 - Part identification
 - Autonomously guided vehicles
 - Dynamic inspection and metrology

Speakers

TBD

Related Events

Location

Washington, D.C. (The workshop will be held at NIST, Gaithersburg MD 20899)

Contact Details

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Submission Information

Prospective authors are requested to submit a draft paper (max. 8 pages) or an extended abstract (1-2 pages) for review. All submissions must be written in English, starting with a succinct statement of the problem, the results achieved, their significance, and a comparison with previous work. Papers are to be submitted directly to the organizers using the specified templates at www.isd.mel.nist.gov/PerMIS_2008/submission.htm/.

Important Dates

Submission of extended abstracts/full papers	June 25, 2008
Notification of acceptance	July 11, 2008
Final papers due	July 25, 2008